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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,088	08/20/2001	Roberto A. Gaxiola	883933.0067	7374

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EXAMINER

MEHTA, ASHWIN D

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 01/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/934,088

Applicant(s)

GAXIOLA, ROBERTO A.

Examiner

Ashwin Mehta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-83 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 33-83 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 33-45, 48-51, 54-57, 77, 78, and 80-82, drawn to a transgenic plant resistant to the effects of externally imposed stresses, said plant comprising a nucleotide sequence comprising an exogenous tonoplast pyrophosphatase driven H⁺ pump gene; one or more plant cells comprising exogenous nucleic acid encoding AVP1, that alters expression of vacuolar H⁺ pyrophosphatase; a transgenic plant with an enhanced capacity to retain solute species in a vacuole, wherein the plant has been transformed with exogenous nucleic acid comprising a tonoplast pyrophosphatase driven H⁺ pump gene encoding AVP1; a method for enhancing the capacity of a plant vacuole to retain solute species, comprising the step of introducing into the genome of a plant exogenous nucleic acid comprising a tonoplast pyrophosphatase H⁺ pump gene; classified in class 800, subclass 278, for example.
- II. Claim 46, drawn to a mutant variation of a transgenic plant resistant to the effects of externally imposed stresses, said plant comprising a nucleotide sequence comprising an exogenous tonoplast pyrophosphatase driven H⁺ pump gene, classified in class 435, subclass 410, for example.
- III. Claims 49, 50-54, 77, 79, 80, and 83, drawn to a transgenic plant obtained by introducing into genome of the plant exogenous nucleic acid that alters expression of vacuolar pyrophosphatase in the transgenic plant; one or more plant cells comprising exogenous nucleic acid that alters expression of vacuolar H⁺

pyrophosphatase, wherein the exogenous nucleic acid comprises a regulatory element that alters expression of vacuolar pyrophosphatase; a transgenic plant with enhanced capacity to retain solute species in a vacuole, wherein the plant has been transformed with exogenous nucleic acid comprising one or more regulatory elements that enhance the expression of vacuolar pyrophosphatase encoded by endogenous nucleic acid; a method a method for enhancing the capacity of a plant vacuole to retain solute species, comprising the step of introducing into the genome of a plant exogenous nucleic acid comprising one or more regulatory elements that enhance the expression of vacuolar pyrophosphatase encoded by endogenous nucleic acid classified in class 435, subclass 468, for example.

- IV. Claims 58 and 60-76, drawn to a method for increasing production of seeds in plants comprising providing pollen from a first plant that has been transformed with exogenous nucleic acid that comprises a tonoplast pyrophosphate driven H⁺ pump gene, fertilizing a plant with pollen from the transgenic plant, and culturing the fertilized plant until the plant produces mature seeds, classified in class 800, subclass 271, for example.
- V. Claims 58-61, 64, 65, 68-76, drawn to method for increasing production of seeds in plants comprising providing pollen from a first plant that has been transformed with exogenous nucleic acid that comprises a regulatory element that alters expression of vacuolar pyrophosphatase, classified in class 800, subclass 290, for example.

Claims 49-51, 54, 58, 60, 61, 64, 65, 68-77, and 80 will be examined to the extent that they read on the elected invention. Further, claims 56 and 57 are being interpreted for this restriction requirement as if they depend from claim 55, as claims 56 and 57 refer to AVP1, which is mentioned in claim 55.

The inventions are distinct, each from the other because of the following reasons:

Inventions I-V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation. The transgenic plants, plant cells, and method comprising a exogenous tonoplast pyrophosphatase driven H⁺ pump gene of Group I does not require the mutant plant of Group II, the transgenic plants, plant cells, and method comprising regulatory elements that enhance the expression of vacuolar pyrophosphatase encoded by endogenous nucleic acid of Groups III and V; the fertilization and increase in seed production of the methods of Groups IV and V. The mutant plant of Group II does not require the non-mutant plants and methods of the other groups. The transgenic plants, plant cells, and method comprising regulatory elements that enhance the expression of vacuolar pyrophosphatase encoded by endogenous nucleic acid of Group III do not require the exogenous tonoplast pyrophosphatase driven H⁺ pump gene of the plants, cells and method of Groups I and IV, the mutant plant of Group II, the crossing and increase of seeds of the method of Groups IV and V.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for each of Groups II-V, restriction for examination purposes as indicated is proper.

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Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Any inquiry concerning this communication from the examiner should be directed to Ashwin Mehta, whose telephone number is 703-306-4540. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays from 8:00 A.M to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at 703-306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 and 703-872-9306 for regular communications and 703-872-9307 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.



ASHWIN D. MEHTA, PH.D
PATENT EXAMINER

January 27, 2003